ADAPTIVELY ENCODING A PICTURE OF CONTRASTED COMPLEXITY HAVING NORMAL VIDEO AND NOISY VIDEO PORTIONS

Abstract of the Disclosure

A technique is provided for adaptively encoding in hardware, software or a combination thereof a sequence of frames in real time, wherein one or more of the frames includes a random noise portion. The technique includes using statistics analysis to determine whether a current frame includes a random noise portion, and if so, to evaluate and dynamically encode each macroblock thereof based on activity level of the macroblock. Evaluating macroblock activity level includes determining whether its activity level exceeds a predefined threshold indicative of random noise. The macroblock is adaptively encoded by adjusting one or more coding parameters if the macroblock activity level is excessive and its target bitrate is low. For example, when the macroblock is within the random noise portion of the frame, the macroblock is biased towards being coded predictive and an adjusted quantization level is calculated to conserve bits used in encoding the macroblock, thereby moving encode bits from macroblocks within the random noise portion of the frame to macroblocks within the normal portion of the frame.